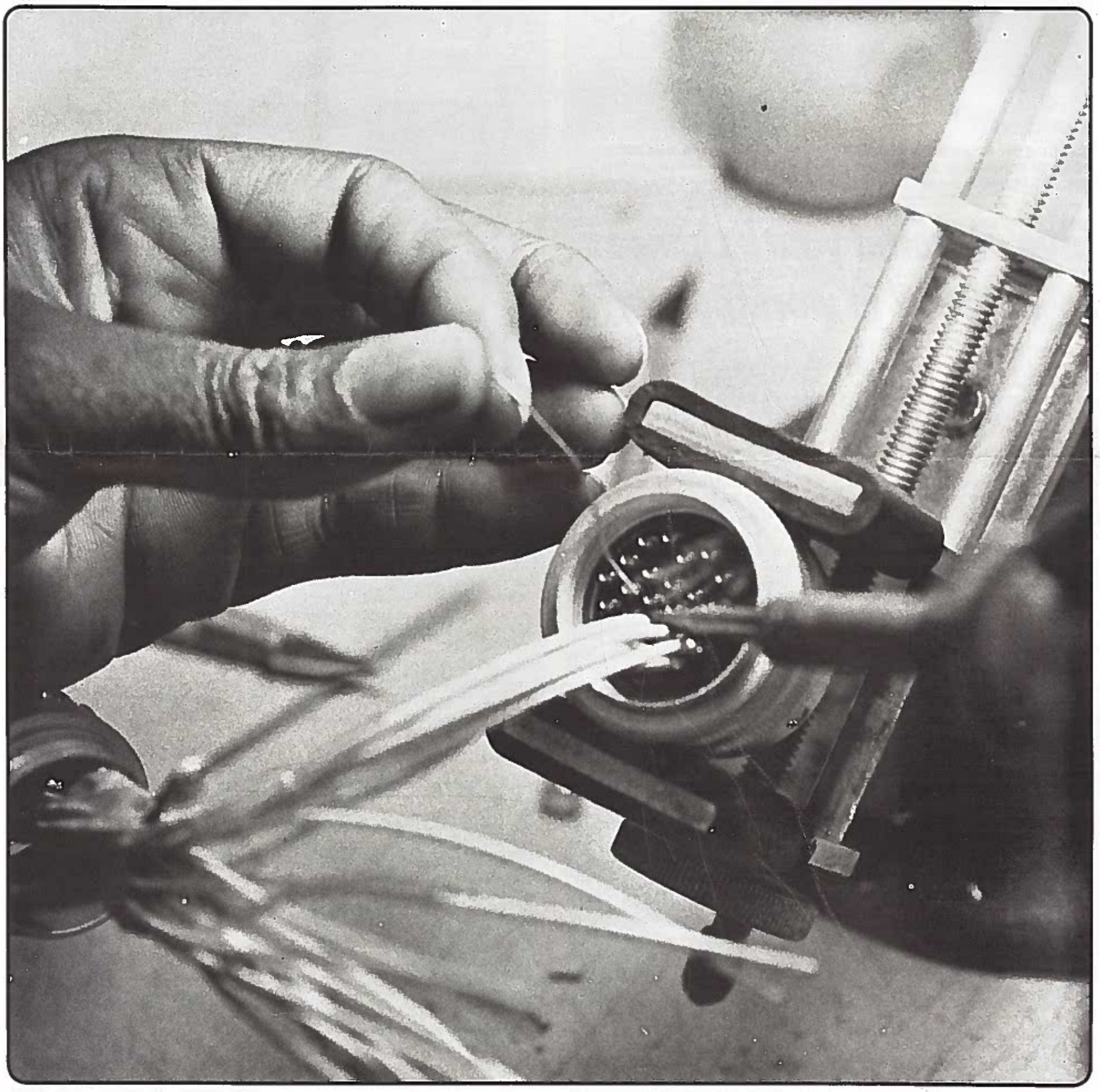
GRUMMAN plane news

Vol. 34, No. 2, Bethpage, N. Y., January 24, 1975



Great River gearing up for future . . . page 4

Scouting for job placement of 10 learning disabled young adults from BOCES in Plant 36 are (L to R): Joe Sousa and Charlie Pfaeffle of Employment; Mike Petro, BOCES; Mickey Jaeger, foreman of Plant 36 Upholstery; and Vince Russo, BOCES. (Photo by Larry Van Wallendael)

Give disabled youth chance to 'make it' in working world

For several years, Grumman Aerospace has had a close working relationship with the New York State Board of Cooperative Educational Services (BOCES). The latest development in this mutual bond will be culminated early this year when Grumman Aerospace "takes on board" 10 learning-disabled young adults who are members of the BOCES Occupational Education program, says Charlie Pfaeffle of Employment.

Over the past few months, three BOCES representatives have toured Plant 3 and Plant 36 with Pfaeffle and the managers of these facilities to explore those areas most suitable in which these new Grummanites will be able to best utilize the skills they've acquired at the BOCES occupational training school.

These young adults, ranging in age from 18 to 24, are either mentally, emotionally, or physically handicapped. From their Grumman start date on, Vince Russo of BOCES will be at Grumman as the counsellor. His assignment will be as the BOCES right-hand man to the Grumman plant foreman in assisting these 10 young people in adjusting to their new working environment. (Vince is no stranger to Grumman — for 10 years he worked as a methods engineer in Plant 6.).

Aaron Schaeffer, BOCES project manager of Employment and Training of the Handicapped, and Mike Petro, BOCES field coordinator, have high aspirations for the Grumman placement of learning-disabled young men and women who have completed the BOCES special occupational training.

"We have found since the program was initiated with Long Island industries, that these young people, after adjusting to their jobs, are ripe for bettering themselves," says Schaeffer. "Many enroll in our adult education after-hours courses. Their interests are renewed in reading and writing. And they want to reap the benefits of the working world, such as balancing a checkbook, learning to shop, or acquiring a driver's license."

The last stage before actual interviewing by the plant foreman and the hiring of these young workers took place last week in Plant 36, when plant manager Jim Erickson, Charlie Pfaffle, Joe Sousa, and Tom Mahoney of Employment, escorted the three BOCES reps through the shop area. The BOCES-Grumman team surveyed the job possibilities in the Garden City plant, just as they had done previously in Plant 3 before the holidays with plant manager Augie Ripp.

By mid-February it is expected that the Grumman - BOCES program will provide 10 young women and men the opportunity "to make it in the world" by joining the working ranks.

plane GRUMMAN news

Published twice a month for the employees of Grumman Aerospace Corporation, Bethpage, N. Y. 11714, as a function of the Public Affairs Dept., Vice President J. B. Rettaliata, director.

Manager, Internal Communications
Brian Mastersen

Associate Editor
Michael M. Smith

Editorial Assistant
Kathy Housley

Telephone
Plane News: 3293
Plane News from outside line:
LR 5-3293

Ahead of schedule

In September 1973, following an eight-month lull due to program funding cuts, Grumman got the go-ahead for resumption of production on the F-111 aft fuselage. Of course, forgings, machined parts, etc., had to be purchased before the start-up at Plant 36 was possible so it wasn't until July '74 that the fuselage started to take shape in the assembly jig at Garden City. Faced with the challenge of delivering the first fuselage less than six months later, the Plant 36 production crew surprised a few pessimists by not only meeting the January 8 delivery date, but by shipping the fuselage two days earlier on January 6 to General Dynamics-Fort Worth, prime contractor on the Air Force F-111 program.

According to Plant 36 Manager Jim Erickson, Grumman is slated to produce the aft fuselage as well as one ship-set of horizontal stabilizers, main landing gear, and nose landing gear each month over the next two years.

List changes in assignments

Recent appointments in Grumman Aerospace include:

MANUFACTURING OPERATIONS — Bob Thomas, director, and Norbert Hansen, deputy director, Manufacturing Business Management; PROCUREMENT — Phil Vassallo, deputy director, Corporate Procurement Operations; GREAT RIVER OPERATIONS — Bill Paxson, in addition to his duties as director of Corporate Procurement Operations, is assigned to organize and direct the required expansion of the Training Systems Department and Avionics/GSE operation; RESCUE CONTROL — Bob Walters, deputy director, Estimating/Pricing; Anthony Menna, deputy director, Contracts; TREASURER-CONTROLLER — Ron Maginniss, Cashier, Treasurer-Controller Organization; OPERATIONS QUALITY — John Scannello, manager, Quality Control, EF-111A and EA-6B programs; CALVERTON OPERATIONS — Bob Bolton, director, Joe Staff, deputy director, Material & Logistics.

Calendar

Notice of events for period Feb. 14 to Feb. 27 should reach Plane News by Feb. 6.

Duplicate Bridge Club: Every Thurs., 6 p.m., Pl. 30 cafe; partnerships arranged; guests welcome. Phil Hodge, Ext. 1195.

Grumman Family Campers: Sun., Feb. 2, 5 p.m., Pl. 3 cafe; regular monthly meeting (dues final). Earl Schroeder, Ext. 1923.

Old Friends Club (OFC): Mon., Feb. 3, 7:30 p.m., D's Restaurant, Jericho Tpke., Syosset; monthly meeting. Frank Mistretta, Ext. 2683; Jerry D'Agostino, Ext. 9145.

Retiree Club: Wed., Jan. 29, 1:30 p.m., Holiday Manor; regular monthly meeting.

Rod and Gun Club: Every Tues., 6-8 p.m., Colonial Range, Gardiners Ave., Levittown; every Thurs., 6-10 p.m., Old Bethpage Range, W. Babylon; Every Fri., 6-8:30 p.m., Marine Headquarters Range, Stewart Ave., Garden City; practice and matches; open to all Grummanites. Call GAA for information.

Ski Club: Wed., Jan. 29, 8:30 p.m., Plaza Restaurant, Hicksville (corner of Old Country Rd. & Newbridge); skiing/social; guest welcome. Donna Marie, Ext. 6466.

Society for the Advancement of Material & Process Engineering: Tues., Feb. 11, 5:30 Happy Hour, 6:30 dinner, 7:30 speaker, Kings Grant Motor Inn (exit 46 L.I.E.); "Fire Safety Aspects of Polymeric Materials;" guest speaker: Dr. Robert S. Shane — National Materials Advisory Board (NMAB); guests welcome. S. Westerback, Ext. 2727; G. Lubin, Ext. 1717.

Stamp Club: 1st and 3rd Wed. of each month, 5 p.m., Pl. 30 cafe. Hal Potkewitz, Ext. 1251.

OBITUARIES

MILDRED MARIE PODRUE of Distribution Services, Plant 2, died January 13 at the age of 56. She had been with Grumman since 1968 and lived at 27 Linden Avenue, Bethpage.

FRANK P. LICHTNEGER of Production Control Management, Plant 27, died January 14 at the age of 63. He had been with Grumman since 1937 and lived at 26 Wilson Drive, Babylon.

Lending a hand. Plant protection guard Phil Harvey (C) was speechless when fellow Grummanites came to his family's assistance after home was gutted by fire. Pictured are (L to R): Arthur Apgar, Sgt. Howard Albert, Harvey, Bill May, Sgt. George Miezejewski. (Photo by Marie Trimborn)

Fellow Grummanites join to assist Harvey family

Phil Harvey is speechless.

"What can I say? It's incredible . . . amazing."

It all started four days after Christmas at 12:30 in the afternoon. The Harveys' christmas tree burst into flames. He, his wife, and 11 children (two live away from home) escaped without injury, but their home was completely gutted by fire. The news spread nearly as fast as the fire.

Within 20 minutes, there was a traffic jam on Hickory Street in Central Islip. "The fire trucks were blockaded in front of the house." Phil's neighbors had arrived to offer assistance. The Salvation Army was at the door in less than an hour, not to mention, the members of the church choir Phil belongs to, the children's friends . . . "just everybody."

The next day Phil went to work at Grumman just as he has been doing for the past 10 years as a Plant Protection guard. Word reached Phil that a collection was going around for his family. He recalls having said, "Phooey." In his usual good-hearted manner, he explained, "It's Christmas time; nobody has any *extra* money . . . let alone money . . . why burden them."

But Grummanites just couldn't see it his way. Plant 25 guard Bill May organized a drive in his plant, and by New Year's Day, the Plant 25 lobby was overflowing with clothes, blankets, and other essentials. But that's not all: monetary contributions reached $950.

When May presented Phil with the donation and station wagon loads of clothes, the father of 13 was struck speechless . . . and so was his wife when he called her. "She thought I was kidding." But that's not the whole story . . . the Grumman generosity was — and still is — flowing in from Guard Headquarters, and facilities at Wyandanch, Calverton, Bethpage, and Phil's home-beat, Plant 43, which now totals over $1,000. And as an added bonus, Phil received a TV console donated by a Grumman "friend."

Meanwhile, the Harvey family has set up residency a few blocks away from their fire-gutted house until it has been repaired. Much time is spent sorting the hundreds of clothes articles that have been delivered to their home. Extra articles of clothing (from what Phil says there are overwhelming) will go to the Salvation Army. But the biggest problem Phil and his wife now face is what to say to the hundreds of people who helped them bring in the New Year.

"The only thing I can say is . . . thank you . . . thank you all."

Wanted: stamps

The Grumman Stamp Club is embarking on a new community-service program to assist patients at Sagamore and Pilgrim State hospitals . . . but the members of the stamp club need your help. According to Steve Hoops, the staff at Sagamore and Pilgrim State use stamps in their occupational therapy programs, and any inexpensive U.S. or foreign — old or new — stamps, on paper or those removed by soaking, are welcome. If you can help in this worthy cause, please contact Hoops on Ext. 87451 or 3926, or send your used stamps to: Steve Hoops, Dept. 445, Plant 12.

Contributors win 24 prizes in '75 United Way drawing

Why do people give to the United Way of Nassau-Suffolk? A desire to help those in need . . . insuring that facilities and agencies are available should fate deal an unexpected setback . . . and, of course, it may be a form of "pay back" for past assistance received during time of need.

No matter what the specific reasons, the motivating forces to support United Way were great throughout Grumman Aerospace this year. Over 80 percent of the company responded to the appeal with $593,560 contributed either in cash donations or promised through payroll deductions for 1975.

The money will help support 94 health, welfare, and non-profit hospitals on Long Island.

On Monday, January 20, the more than 18,200 Grummanites who contributed to United Way were eligible for the annual company-sponsored prize drawing, held in Grumman Corporation Headquarters lobby.

There were really "two drawings in one" for the 24 prizes. First, the names of all individuals who contributed a "fair share" or a full day's pay were placed in the barrel. They were given first crack at half of the prizes. Then, the names of all the other United Way contributors were added to the drum and the remaining 12 winners were drawn.

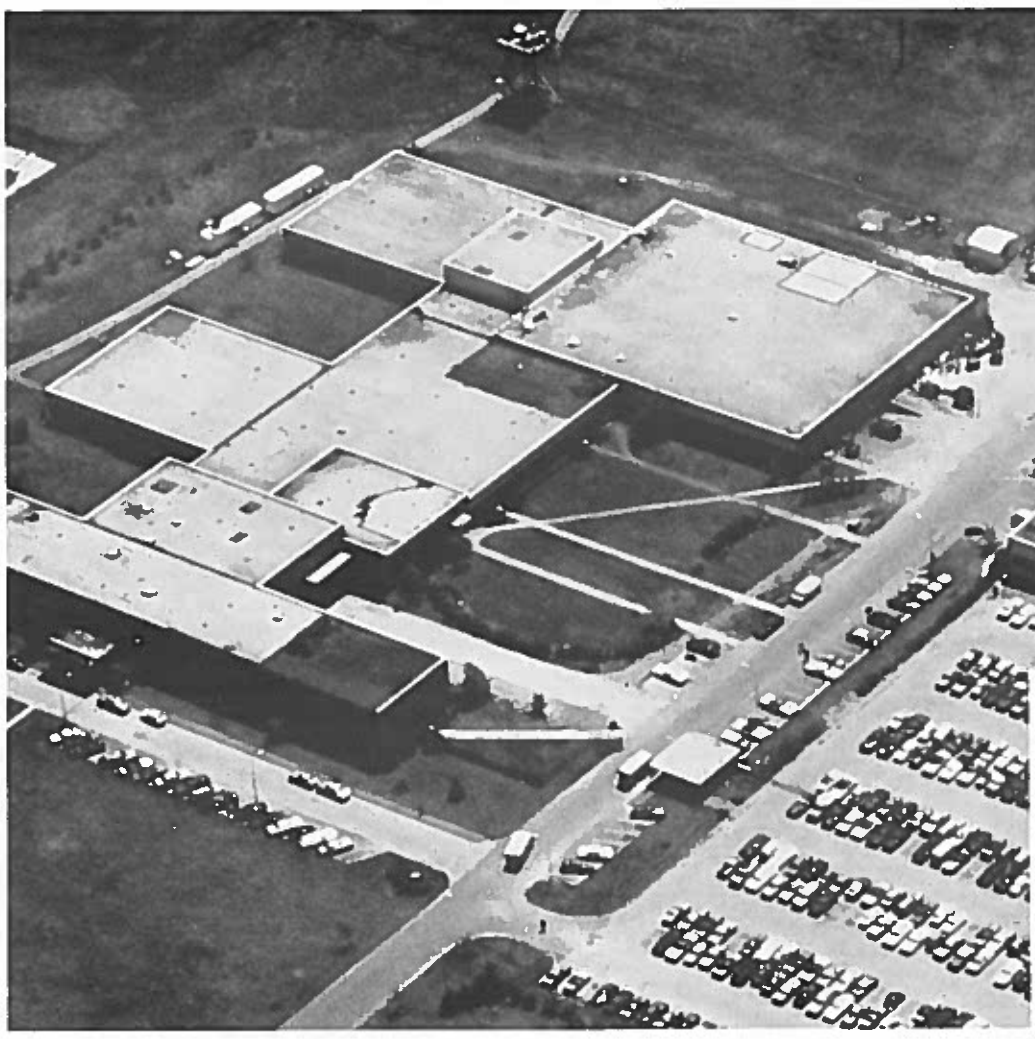
The first lucky winner selected from the drum by Grumman Corporation President and Chief Executive Jack Bierwirth was Leon Chetuck of Maintenance, Plant 2. A Grummanite for over 23 years, Leon has been contributing to the United Way (it was called initially the Long Island fund) since "Star Night" in the early '50s. This is the first time he has been named a winner: "It has all been very exciting." He finds it easier to give to this worthwhile cause through the payroll deduction system. Will he discontinue his donations now that all these years of giving has paid off? "No way," says Leon. "I don't give to win anything . . . I give because it's the best way to donate to a worthy cause across-the-board."

Winner number three, Muriel Ball of Finance in Plant 30, has been giving since the "beginning of time." Muriel recalls when she was in charge of the United Way campaign in her department they always hit the 100 percent mark. Working on her 30th year at Grumman, Muriel is an "old friend" of the United Way, but this is the first time she has been a prize winner. "Who ever said giving is better than receiving wasn't completely right," she said with a grin as she contemplated which of the 24 prizes she will select.

Winners of this year's campaign drawing are:

Leon M. Chetuck, Maint., Pl. 2
William Donnelly, Jigs, Detail and Sub. Assy., Pl. 6
Muriel V. Ball, Cashiers Office, Pl. 30
Eugene Shiwotsuka, P/S Support, Pl. 80
Ronald Boyce, Plant Store, Pl. 3
John Duffett, Prototype, Pl. 2
Michael Carfora, Avionics Inst., Pl. 43
Ellison L. Brem, Router and Shear, Pl. 3
John Matthews, Program Mgmt., Pl. 25
John Vollario, Electronic Test, Pl. 14
Paul Gray, P/S Quality Controls, Pl. 34
Herbert Smith, Ordnance, Pl. 6
Warren Hines, Release and Control, Pl. 1
Robert Brown, Electric/Electronic Checkout, Pl. 7
Michael Connolly, On-board Checkout, Pl. 14
Russell Gumaer, Insp. - Mechanical, Pl. 6
Alta Sharp, Administration, Pl. 7
John Jackson, Fuse'age Assy., Pl. 1
Dorothy Riegert, Wire Prep., Pl. 44
Andreio Ramotnik, Avionics Test, Pl. 5
Paul DeStefano, Final Assy. Structure, Pl. 36
Raymond Stubbings, Elect. Fab., Pll. 43
Jonathan DePierro, Food Service, Pl. 6
Frank Lichtneger (deceased), Prod. Plt. - Mgmt. and Staff, Pl. 27

On receiving end. Grumman Corporation President Jack Bierwirth (3rd left) pulls the first of 21 winners' stubs in the company's annual United Way drawing. Also present were (L to R): Gus D'Errico, head of ESO; Kay Zak, ESO; Bierwirth; Tom Lahey, deputy director of Milledgeville Operations; GAC Vice President Tom Rozzi, director of Personnel-Security; and Sam Piazzola, director of Payroll Ops. (Photo by Bob Settles)



Talent, technology, new facility at Great River key factors in production upswing in electronics

Occupying a 90-acre tract on Long Island's south shore, Grumman's new Great River facility is devoted almost exclusively to the manufacture and supply of ground support equipment, training systems and advanced aircraft avionics. Great River's two modern plants, comprising 225,000 square feet of work area, will produce well over $50 million worth of electronic ground support equipment and related gear this year — over 50,000 items in all.

The corporation's ground support and related equipment sales for all areas now total $340 million annually, about one third of the corporation's business.

"When we moved to our new site last year," says Great River General Manager and Vice President Ralph "Doc" Tripp, "our objective was to pull together in one location the manufacturing of avionics and ground support equipment — both of which primarily involved production of electronics hardware."

But more than just gathering related operations together in one facility, the Great River move also brought the electronics side of the house under a single, unified management team headed by Doc Tripp, former director of the Lunar Module Program for Grumman.

The new management set-up, designated a "responsibility center" in the mold of Calverton and Stuart (Fla.), is designed, says Tripp, "with the idea of potentially making Great River a cost center, providing a profit-and-loss system to see how this operation stacks up with the rest of the company's business." According to Tripp, the new management system is only one result of the increasing importance Grumman attaches to the ground support — and the electronics — end of the business.

Judging from results so far, the new management system seems to be working, and working well.

"In '74 Great River completed $42 million worth of electronic ground support equipment," says Tripp, "while production in'73 had been $28 million." For this year Tripp projects some $58 million worth of business.

Some of these gains can be attributed to a streamlined organization arising out of the move, particularly in the supply and distribution areas. All buying and stocking for the facility are now handled at the facility's Plant 44. There, receiving, warehousing, and stocking are united in a single operation under Material Manager Al Schuckle to preclude confusion and divided responsibility.

Delay and wasted effort are avoided in printed circuit board fabrication by the use of "kitting." Each PC board fabricator is provided with all the parts needed for the boards in a single kit, rather than having to obtain, and track down, the parts piecemeal.

"Quality," adds Tripp, "remains at a high level. Jay Klevanosky, director of Quality Control here, maintains close ties with Operations Quality at Bethpage under Director Joe Kingfield."

A lot of production gains at Great River are the result of the physical plant itself. "We've reaped significant gains in productivity," says Tripp. "Greater and better utilized space — especially with the new open work areas — has resulted in smoother workflow and enhanced employee morale.

Photos by Harry Prodromides

"Joe Gavin had the foresight to say 'Take out the old partitions and re-design the building so the workflow is logical and smooth'," he added. "We've had a lot of visitors out here and almost without exception they've been complimentary about the way we've set up the work areas."

The actual move into those new work areas was largely a routine matter. "Although there was some concern that the move to Great River would hamper our production schedule," he says, "the interesting fact is that the Great River move has allowed us to increase production almost across-the-board, and even during the move itself not a single production commitment was missed." As an example, he cited Great River's doubling of printed circuit output in the five months since the opening of the facility. Tripp expects the production upswing to continue over the next year — and that without any significant increase in the work force.

Tripp also points to the sense of *esprit* engendered at the new facility.

"I walk through the plants as often as possible," he says. "Our people seem caught up in their jobs, partly, I think, because of the work atmosphere here and also because we have a good variety of tasks.

"I find the same kind of pride in accomplishment here that we had on the LM program. Here we may not be going to the moon, but the sense of participating in something big — having an aircrew's lives entrusted to us—gives the work here it's meaning. It also helps that we have a new plant laid out the way it should be, and our products here are identified as Great River products."

Tripp adds, though, that the Great River operation "still has not hit peak efficiency or output — there are a lot of improvements to be made and a number that are still in progress."

As part of the continuing drive to further increase the corporate production capability, Grumman management set up an Advanced Avionics Committee with representatives from all sectors of the company, among them John Benz and Jerry Cronin of Technical Operations, and Howard Peck, director of Great River Engineering.

This committee keeps Grumman well informed on engineering and manufacturing concepts and processes developing outside of Grumman through periodic travel across the country to look for better techniques, and by also keeping alert to techniques that have been tried and have failed in other firms.

"Standardization — reducing the many different kinds of wires, connectors, and other parts —is one area we're concentrating on so we can minimize our stock inventory and our shortage problems," says Tripp.

In the coming year, Great River Manufacturing is planning to add semi-automatic wire-wrap machines for sub-assembly fabrication, and will also look into flexible printed circuitry as a more efficient and reliable way of manufacturing subassemblies.

Some innovations, although less dramatic, have proved to be contributing factors in the production upswing. "The use of carpeting on the floors of avionics shop areas, for example, allows us to save wires and other small pieces that drop to the floor accidentally," says Deputy General Manager Norm Reinertsen. "On a hard floor these pieces could be crushed underfoot and wasted."

The way Tripp sees it, though, the move to Great River is only the beginning.

In future years, Tripp sees expanded business in all sectors of Great River operations. "The future of avionics looks particularly bright," he points out, "and it should play an ever greater role in the aerospace industry — and in the future of Grumman at Great River."

'Job is to build'

Grumman at Great River is almost exclusively a manufacturing facility. As deputy general manager Norm Reinertsen puts it, "Our job here is to build—that's about 95 per cent of our operations."

Great River's tasks include: sheet metal manufacturing, printed circuit board fabrication and assembly, subassembly and wiring, electrical test, final assembly, and cable and harness fabrication. Fifteen per cent of Great River's operations are devoted to ground based trainers and simulators. The other 85 percent is Ground Support Equipment (mostly electronics) and aircraft avionics which comprises virtually all the electronic countermeasures gear (aside from the specialized "black boxes") used aboard Grumman aircraft.

Over 1,950 persons are employed at Great River, 1,400 in manufacturing which is headed by Joe Walker. The Material organization supporting Great River includes resident requirements planning, purchasing, receiving, stocking, inventory management, and kitting.

Training & Development offers broad after-hours program

Corporate Training and Development Department of Grumman Aerospace is offering a number of after-hours courses again this semester to help students expand their knowledge and brush up on their skills. Registration is by phone, starting 8 a.m., Monday, Feb. 3, and continuing until 4:30 p.m., Friday, Feb. 14. There are no fees or tuition charges.

The courses listed are available to Grumman employees. For some courses there are prerequisites. Students need not have fulfilled a particular prerequisite by taking voluntary education courses: courses taken elsewhere or work experience can prepare a student for the more advanced courses.

For all courses, a minimum registration of 15 students is required.

Enrollment procedure

Enrollment is strictly voluntary. Students may register by calling the Voluntary Education Office at the extensions listed below. **Please note:** a specific phone extension is assigned for registrations for the day on which a course is given. Extensions listed below, prefixed by an asterisk (*), will be connected **only during the registration period.**

Registration calls will be accepted ONLY from 8 a.m., Feb. 3, through 4:30 p.m., Feb. 14, 1975 each working day.

Bethpage courses:

Monday evening courses – call Ext. 87521*
Tuesday evening courses – call Ext. 87522*
Wednesday evening courses – call Ext. 86860*
Thursday evening courses – call Ext. 1282*
All Calverton courses – call Ext. 381

Certificates

Certificates will be issued to those students who have attended at least 80% of the sessions and have completed the required work in a creditable manner. Further information can be obtained by calling the Voluntary Education Office on Ext. 84044.

Student cost

There are no fees or tuition charges; however, students are expected to purchase their own textbooks. Textbooks may be purchased anywhere, but for students' convenience, the Voluntary Education Office will have textbooks available for purchase through the course instructor.

The following list of courses being offered by Corporate Training and Development includes title, course number, description of course, section number (if more than one section is being offered), instructor, location and time of class, and starting date. For registration, refer to title, course number, and section (if more than one class offered).

Other Helpful Information

Many worthwhile programs of study are also available at your local high schools. Your school district's Adult Education, BOCES, and VEEB programs, offer a variety of courses at all levels: For more information, contact your local school district.

COMPUTER SCIENCES

Computer Programming – COBOL (FF 00001 - 30 hrs)

Covers the COBOL language and its application to business problems. Topics to be included are: organization of a COBOL program, fundamentals of flow charting, COBOL language structure and usage, review of compiler diagnostic messages, and class problems.

Prerequisite: Introduction to Computer Programming or equivalent.
Bernard Abrams, Room 112, Bethpage H.S., 5-7 p.m., Wed. Feb. 26.

Computer Programming, Introduction to (FF 00003 - 30 hrs)

Intended for those students who have had little or no exposure to computer programming, and intend to take programming courses devoted to a particular language.
Course includes: philosophies of programming, representation, presentation and transfer of information, problem analysis, program organization, coding and an introduction to FORTRAN, COBOL, and PL/1.

Bernard Abrams, Room 112, Bethpage H.S., 5-7 p.m., Mon. Feb. 24.
Calverton: R. Hazelton, Room and time to be announced, Mon. Feb. 24.

Computer Programming – FORTRAN (Advanced) (FF 01141 - 30 hrs)

An integrated course covering the applications and limitations of the IBM 1130 computer system with an introduction to IBM 360/75 system. Real time aspects of selected scientific and management information will be studied. Students will solve simple modeling and optimization problems utilizing the more advanced techniques in FORTRAN programming.

Prerequisites: First year college math and computer programming (FORTRAN) or equivalent.
Joe Vosefski, Room 111, Bethpage H.S., 5-7 p.m., Mon. Feb. 3, and 5-7 p.m., Tues. Feb. 4.

ENGINEERING SCIENCES

Integrated Circuits for Engineers I (FF 00329 - 30 hrs)

Integrated Circuits for Engineers II (FF 01143 - 30 hrs)

The course will provide a review of Design Parameters necessary in selecting ICs for High Frequency Application, such as: Video Amplifiers, IF Amplifiers and Tuned Circuits: Application of ICs for arithmetic functions, converters D to A and A to D, is included.
The objectives of the course will be to acquaint the engineer with the interpretation of various manufacturer IC specifications and assist him in selecting the right IC to do a certain job.
Selected design problems will be taken up in class. Application of ICs to Digital Circuits will be emphasized. Familiarization with problems encountered in the use of ICs and how to cope with these problems is also included. The application of FET, MOS and MOSFET, with concentration on practical aspects, such as Voltage Variable Resistor, completes the course.

Prerequisite: Integrated Circuits I (A brief review of Integrated Circuits I will be conducted if necessary).
Val Sanford, Room 110, Bethpage H.S., 5-7 p.m., Mon. Feb. 24.

Stress Review for Engineers II (FF 00871 - 30 hrs)

The analysis of complicated structural components and assemblies such as bulkheads, fuselages, wings, and related connections. Advanced methods of stress analysis are used employing strain energy, virtual work, elastic centers. These complicated problems are computer oriented and are also analyzed by matrix and computer problems.

Prerequisites: Engineering degree (or equivalent).
O. Lourenso, Room 110 Bethpage H.S., 5-7 p.m., Tues. Feb. 25.

Digital Applications of Integrated Circuits (FF 01339 - 30 hrs)

This course will enable the student to apply his digital knowledge to Non-linear integrated circuits currently in use.
Applications of current integrated circuits will help the student understand their use in today's computers and assist student in developing the ability to recognize and use such circuits as registers, decoders, arithmetic logic units and memory units.

Prerequisite: Basic digital background.
Calverton: Joe Hosek, room and time to be announced, Mon. Feb. 24.

Computer Methods in Structural Analysis II (FF 01272 - 30 hours)

This course is intended to introduce the student to more advanced concepts and applications of matrix methods for solving structural problems. The course will cover such topics as: matrix alegebra, the force method, and the stiffness properties of various finite elements. Advanced problems will be used to illustrate the various techniques. Previous knowledge of matrix algebra will be assumed. A basic understanding of material strength and structural analysis will be required.

P. Mason, Room 110, Bethpage H.S., 5-7 p.m., Wed. Feb. 26.

Environmental Monitoring (FF 01312 - 30 hours)

The course will familiarize the student with the methodologies of monitoring the various environmental parameters controlling the earth's ecological status. The need for monitoring and applicability of the data will be discussed. The systems and instrumentation used on site, from a remote platform and in the laboratory will be described. All of these systems have been, or are currently utilized by GAC for various applications.

Henry Foglino, Room 114, Bethpage H.S., 5-7 p.m., Tues. Feb. 25.

SKILLS DEVELOPMENT

Electricity II (FF 00009 - 40 hrs)

This is the second in a series of courses in the Electrical-Electronics Training Program. Practical laboratory experiments, coupled with related theoretical concepts, develop proficiency in circuit fault-isolation of electronics equipment. Subjects covered in this course include: schematic diagram reading, power supply circuits, filters, diode rectifier transformers. Basic electrical test instruments, such as volt, ohm, milliammeters, and oscilloscopes, are used throughout.

Robert Volino, room to be announced, Great River Plant 44, 5-7 p.m., Mon. Feb. 24.

Electronics II (FF 00011 - 40 hrs)

Electronic components are used to construct circuits such as logic gates, oscillators, and audio amplifiers. Both vacuum tube and transistor familiarization is covered during the course for a more complete understanding of complex circuits. Standard electronic shop test instruments will be used throughout the course.

Steve Biesiadeki, Room 4, Plant 39, 4:30-7:30 p.m., Mon. Feb. 24.

Use, Care, and Application of Basic Electronic Test Equipment (FF 01311 - 40 hours)

This course's objective is to provide the student with a capability to select, operate, and read, the basic types of test equipment used in the electronics industry. Test equipment safety rules and precautions are stressed. Students master proper care and application of test equipment, practicing on live circuits, demonstrating techniques with the "hands on" approach.

Prerequisite: Basic electronics would be helpful.
Jerry Brown, Room 4, Plant 39, 5-7 p.m., Tues. Feb. 25.

Electronic Shop Techniques (FF 00307 - 40 hrs)

This course instructs basic skills necessary for an electronic shop assembly and fabrication technician. Included are nomenclature, tooling, material identification, and pertinent specifications used for electronic assembly and fabrication. Attendees perform related practice following demonstrations of methods and techniques by the instructor.

P. Pantelis, Room 3, Plant 39, 5-8 p.m., Wed. Feb. 26.

Basic Blueprint Reading (FF 00048 - 30 hrs)

Instruction covers the fundamentals of print reading, including interpretation of an engineering drawing, dimensions and tolerances, surface finishes, bill of materials, drawing notes, manufacturing processes, and aircraft terminology.

Bethpage H.S., Joe D'Lorenzo, Room 113, 5-7 p.m., Tues. Feb. 25.
Wyandanch, Joe D'Lorenzo, Library, Plant 27, 4-6 p.m., Wed. Feb. 26.

PERSONAL DEVELOPMENT

Effective Technical Presentations (FF 00019 - 30 hrs)

A course to prepare engineering and administrative personnel to give brief, coherent, and successful oral presentations. Includes tailoring a presentation to a specific audience, organizing material for most effectiveness, selection and preparation of visual aids, and platform techniques. Also included are practice presentations and class critiques.

F. J. Ibert | J. J. Mele | C. J. Ruggiero | M. S. Karbot

A. H. Candito | M. J. Elliott | D. W. Marks | R. D. Mallett

J. G. Musante, Jr. | H. W. Patterson | W. Howell

Offering after-hours program

George Breen, Sam Koeppel, Plant 5, Management Center, 5-7 p.m., Tues. Feb. 24.

Shorthand, Gregg Intermediate (FF 00835 - 30 hrs)

This course, geared to the aerospace industry, will instruct the student in more advanced shorthand concepts and accomplish dictation speeds up to 70-100 words per minute with accuracy.

This course is intended for those who have some background in Gregg Shorthand and is designed to advance the student in performing accelerated dictation and transcription.

Yvonne Strickland, Room 3, Training Complex (Plant 8), 4:30-6:30 p.m., Mon. Feb. 24.

Typing, Beginners (FF 00030 - 30 hrs)

For those who desire a skill in typing. Through regular classroom practice and drill, students will acquire the necessary keyboard control essential to good typing techniques.

Claire Weiner, Room 109, Bethpage H.S., 5-7 p.m., Tues. Feb. 25.

Stenoscript Speedwriting (FF 00023 - 36 hrs)

For anyone requiring quick accurate note-taking at technical meetings, management meetings or when recording your thoughts or the words of others, this course is designed to increase your capabilities and will prepare you for future opportunities. In just 15 meetings, with effort on your part, you can learn a new technique: the ability to speedwrite.

Fran Mills, Room 113, Bethpage H.S., 5-7 p.m., Mon./Wed., Mon. Feb. 24.

High School Equivalency (FF 00016 - 60 hrs)

Instruction, review, and preparation for taking the High School Equivalency test. Areas of concentration: Mathematics, Science, English, Social Studies.

Prerequisite: 18 years of age or older; out of school at least one year.

Larry Graham, Room 114, Bethpage H.S., Mon. Feb. 24 (Meets on Mon./Wed.).

Abe Pallas, Room 5, Training Complex (Plant 8), CALVERTON, 5-7 p.m., Mon. Feb. 24 (Meets on Mon./Wed.).

Writing and Communication (FF 01173 - 30 hrs)

This course is designed for those who really want their writing to communicate. Offered are little-known mechanics of organizing what you want to say; of saying it both effectively and efficiently; and of presenting it in an easy-to-read format. Six lectures combine with nine workshops to give you practice as well as theory.

W. Fleischhauer, Room 112, Bethpage H.S., 5-7 p.m., Tues. Feb. 25.

Shorthand, Gregg Refresher (FF 00023 - 30 hrs)

For the individual who wishes to refresh or rebuild skills in shorthand. Provides dictation and transcription practice geared to industrial requirements.

Marjorie Wolfe, Room 106, Bethpage H.S., 5-7 p.m., Wed. Feb. 25.

service milestones

40

William O'Connell, Plant Stores (3)

35

George Cave, Plant Stores (2)
Felix Mazur, Plant Stores (5)
Fred H. Luning, Fuselage Joining (27)
Herman Mack, P/S Site Supply (75)

30

Frederick J. Wark, GSE Mechanical (2)
Gerard H. Doran, E.B. Weld. Mgmt. (2)
John C. Corrigan, Form Block (2)
Miael S. Juppe, Jigs Detail & Sub-Assy. (2)
Howard T. Tripp, Sub-Assy. Control (2)
Stanley C. Ostrosky, Convent. Machines (3)
Adam J. Hojnacki, Wing Final (3)
Charles D. Dukinfield, Fuselage Assy. (3)
George Wall, Supp. Equip. Prod. (5)
Norman R. Kay, Supp. Equip. Prod. (5)
Peter Olynik, Ordnance (6)
Norman A. Youngs, Hydraulics (14)
Stanley C. Miron, B/P Warehouses (21)
John Lucki, Sub-Assy. Major (27)
Harold E. Kelly, Major Assy. (27)

25

Franklin J. Ibert, Machine Shop (2)
Joseph J. Mele, Systems & Facilities (2)
Carlo J. Ruggiero, Wing Final (3)
Michael S. Karbot, Honeycomb Final (3)
Anthony H. Candito, Maint. - Facl. Equip. & Gen. (3)
Mark J. Elliott, Insp. - Mechanical (3)
Donald W. Marks, Electronic Test (4)
Richard D. Mallett, Ordnance (6)
John G. Musante Jr., Structures (6)
Henry W. Patterson, Field Base Admin. (28)
Walter Howell, Upholstery (36)

20

Marie Hageman, PPO - F-14 (1)
Arthur J. Weisser, Repro. Servs. (1)
Harry Schroder, Power Distribution (1)
John J. Caputo, Production (1)
Richard J. Kita, Aero Design & Analysis (4)
Walter A. Hudson, Presentation Services (5)
Ellsworth L. Baker Jr., Contracts A/C (5)
George C. Wiesinger, Q.C. Mgmt. (6)
Robert W. Erickson, Elect. Install. (6)
Thomas S. Barnes, Structures (6)
Eleanor R. Moorehead, Method/Engg. (6)
William F. Weber, Production Mgmt. (7)
Jack Messina, Plastic/Plaster Tooling (11)
Ronald J. Heitzmann, Mat. & Proc. Mgmt. & Staff (12)
Lloyd D. Schilling, Mat. & Proc. Mgmt. (12)
James J. Seno, Mass Prop. Analysis (15)
Angelo F. Marzella, Structural Design (25)
Ronald A. Mohr, Sub-Assy. (27)
George Hoyser, Plant Protection (27)
Ann F. Cozza, Contract Revenue (30)
Richard B. Opsahl, Energy Prog. - Mgmt. Staff (30)
Pedro E. Marques, P/S Systems Anal. (35)
David S. Biggs, Structrural Design (35)
John K. Zentgraf, Dynamics (35)
John P. McAlonen, P/S Training (39)
Tomasi Izzo, Grumman Houston Corp.
Dick D. Nelson, Grumman Houston Corp.

15

Richard A. Werling, Prod. Ctl. (1)
Joseph A. Biro, Methods Engg. (2)
Albert A. Behonick, Parts Paint (3)
Henry V. Foote, Trans. - Operations (3)
George Gonzales, Maint. Rearrangement (3)
Joseph Curatolo, Maint. - Equip. & Gen. (3)
Adolph J. Fitter, Instr. Test (6)
Milton J. Hosek, Training & Devel. (6)
Robert A. Wallace, Elect. Bench Assy. (6)
Edward J. Finnick, Presentation Servs. (7)
John H. Becker, Flight Avionics (7)
Oswald G. Adams, Elect. Fab. (7)
Edward F. Lambeck, Elect. Lab. Mgmt. (7)
John E. Bazazian, Maint. Reargemt. (12)
Gerald M. Day, Maint. Reargmnt (14)
John E. Scaglione, Maint. Reargmnt. (14)
Murray Duff, P/S Verif. & Prod. Sup. (15)
Dennis C. Teixeira, P/S Digital Engg. (15)
Stanley J. Juzwaik, Ship & Spares (17)
Marie E. Wood, Config./Data Mgmt. (25)
Stefan Kikta, Fiberglass (27)
William E. Lehmann Jr., Prog. Estimating/ Pricing (30)
Eugene J. Burke, Elect. Counter Meas. (34)
Richard W. Giberti, Engineering (88)

Tuition reimbursement forms

Application forms for the Grumman Tuition Reimbursement Program are now available at Employee Services Offices and Field Base Administration offices.

Students are reminded that applications for the spring term must be filed with the Tuition Reimbursement Office, Dept. 327, Plant 39, within 30 days of the school's last date of registration. For further information, please contact Helen Holzapfel, Ext. 3385.

Spot check. Over 60 keglers entered the roll-offs for a berth on the 10-man Grumman men's varsity at the Mid Isle Lanes in Hempstead.

Smith family gets into act on varsity roll-off lanes

Ken Smith Jr. wasn't born with his fingers in a bowling ball, but ever since he could take three steps he's been rolling the *bal noir* down the alley. His father, Ken Sr., a 26-year Grumman veteran, built a mini-bowling alley in the basement with wood pins, and bored holes in a wooden ball to fit the youngster's grip. The result can now be seen at the annual Grumman varsity rolloffs. Young Ken is leading the 62-man entourage for the second week in-a-row.

As Ken grew up watching his father compete in the old Wildcat and Trader leagues, his average grew, too—it now stands at 194. Since young Smith started with the company in April of last year, this is his first varsity roll-off. But the rookie is holding his own against the more experienced keglers. For the 12-game series bowled thus far, he has run up a score of 2,397 — averaging a commendable 191.4.

After a long absence from varsity tryouts, the senior Smith has made a come back and is holding his own by making the 32-man cut in 19th place. Young Ken attributes most of his accomplishments on the lanes to his father's instruction and encouragement, but his father claims that the roles have been reversed — his son is encouraging him.

Thus far, last year's varsity squad is having a poor showing, so it looks like a former set of Grumman varsity representatives will be representing the company in the annual Industrial Jamboree. Those residing in the top four positions behind Ken Smith Jr. are: Jack Nielsen, 2,283; George Ulrich, 2,265; John Alston, 2,253; and Dave Evans, 2,151.

Discount tix

Discount tickets — $7 seats for $2 — are now on sale at the GAA office in Plant 30 for the following N.Y. Nets basketball games: Sunday, February 23, vs. Memphis, and Friday, February 28, vs. St. Louis.

Cagers snatch league opener from LILCO giants, 93-80

In the L.I. Industrial league, L. I. Lighting Co. is fielding a "giant" frontline on the basketball court with players standing 6'11", 6'6", and 6'4". But after the Grumman Hellcats got finished with them, 93-80, the LILCO giants were dwarfed.

The Grumman cagers may have lacked height, but they made up for it with a full court press. Their offensive game was forced to rely heavily on the outside shooting of Larry Tarvin, Frank Quarto, Eddie Krol, and Rich Washington. Six-foot-six-inch Jim Heine and Fornd Farmer, 6'3", fought off the LILCO giants under the boards.

In a battle for first place residency in the Glen Cove league, the Hellcats dropped a 98-95 heartstopper to Royal Zenith. If it weren't for the outside shooting of Quarto, the hoopsters would have had to pack their bags in the second quarter. In the third session, Tarvin began to hit his jump shots and the Hellcats came roaring back to take the lead going into the final period. But Royal Zenith was consistent to the end . . . unfortuntaely not so for the Grumman cagers. "Super dunker" Tarvin led with 34 points.

Pistoliers: only just begun to fight

It's too early in the season to pass judgment, but only two of the four Grumman teams entered in the L.I. Industrial pistol league sport a winning record.

In the sharpshooter division, the Grumman "Ds" quickly rebounded from their first loss of the season against Pan Am "B" by defeating Brookhaven National Lab. Firepower for the "Ds" was supplied by Al Berka, 282; Dave Rice, 273; Jim Dinan, 269; and Art McKee, 248. The "Ds" now stand at 3-1.

Fellow Grummanites on the Gold squad haven't fared as well this season, dropping their second match to Sperry, 1051-1060. Scoring was nearly evenly distributed between the Gold pistoliers: Ron Trenkner, 267; Nick Evanglides, 265; Mike Baumgarten, 263; and Phil Boehm, 257.

In the marksman division, the Grumman "C" and "E" teams are at opposite ends of the percentage curve. The "Cs" are riding high after defeating IBM, 1019-896 — chalking up their second victory. Firepower was provided by Gordon Woodruff, 266; Bill Rommel, 255; Fred Sender, 255; and Sy Cohen, 243. The "Cs" go into the new year sporting a 2-0 record.

The Grumman "Es" were not as fortunate. They dropped their second match in-a-row to Kollsman, 932-974. Top gun for the losers was Bob Hambrecht, 245.

In the South Shore league, the Grumman center fire squad are right on target, shooting down PJM Rifle and Pistol Club, 1075-865, for their third victory. Top shooters for the Grumman squad were: Jim Dinan, 280, and Dave Rice, 273.

Slate paddle play

All table tennis enthusiasts take heed. The 31st annual GAA table tennis tournament is set to begin, Monday, February 10. Play will take place in Bethpage, Calverton, Wyandanch, Great River, and Garden City, says Herb Mahoney, tourney director for GAA.

Any paddle swingers—old and new —can join the table tennis tourney by filling out the entry form on this page and mailing it to GAA, Plant 30, by Monday, February 3. For additional information, contact Mahoney, Ext. 2133 or 2269.

Table Tennis Tourney

Entry Blank

Singles

Name .....

Plant ..... Dept. ..... Perm. No. .....

Days ..... Nights ..... Phone Ext. .....

Doubles

Partner's Name .....

Plant ..... Dept. ..... Perm. No. .....

Days ..... Nights ..... Phone Ext. .....

Entry Deadline, Monday, February 3
(Forward to GAA Office, Plant 30)

GRUMMAN AEROSPACE CORPORATION
BETHPAGE, NEW YORK 11714

ADDRESS CORRECTION REQUESTED

BULK RATE
THIRD CLASS
PERMIT NO. 264
U.S. POSTAGE PAID
BETHPAGE, NEW YORK

NOTE: For change of address or cancellation please (1) cut out this label; (2) cross out old address; (3) write in correct address with Zip code; (4) return to Distribution Services, Dept. 320, Plant 1. By using this procedure, you will expedite any changes or cancellations.